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of the atmosphere. Illuminated cultures of green seedlings in CO₂ free chambers gave much greater growth and increased dry weight if formaldehyde vapors were present than if they were not. It was necessary of course to protect the non-chlorophyll-bearing parts from contact with the vapors. Formaldehyde increases the reducing sugars in *Phaseolus* at the expense of starch deposit. This may account for the failure of starch to appear as a result of the synthesis of formaldehyde. These results, with the more telling experiments of SCHRYVER,¹⁶ USHER and PRIESTLY,¹⁷ and others, furnish strong evidence that formaldehyde is an intermediate product in photosynthesis.—WILLIAM CROCKER.

Phosphorus content of oat grains.—LEWONIEWSKA¹⁸ finds that the phosphoric acid content of oat grains, measured both in absolute amount and in its ratio to the nitrogen, varies greatly with cultural conditions, involving variation in fertilizers and nature of the soil. The variation is mainly due to the inorganic and phytin phosphoric acid, and not to the protein and lecithin phosphoric acid. The author thinks that an excess in the soil leads to its storage in the inorganic and phytin forms. A variation in the nitrogen content of the grain is mainly due to the protein nitrogen. The author concludes that the phosphoric acid supply in the soil can be best judged by the ratio of inorganic and phytin phosphoric acid to protein nitrogen in the grain. The probabilities are that the conditions determining the proportion of absorption and form of storage of nitrogen and phosphorus compounds are much more complex than the author assumes.—WILLIAM CROCKER.

A new genus of yeasts.—NADSON and KONOKOTINE¹⁹ have described a new genus (*Guilliermondia*) of Saccharomycetes, in the culture of which they observed the pairing and fusing of unequal cells ("gametes"), resulting in a cell that became an "ascus" producing one spore (sometimes two spores). In the germination of the spore under usual conditions, cells with the ordinary budding habit were produced. The full account is in Russian and the brief summary in French.—J. M. C.

¹⁶ SCHRYVER, S. B., Photochemical formation of formaldehyde in green plants. Proc. Roy. Soc. London B **82**: 226-232. 1910; rev. in Bot. Gaz. **51**: 470-471. 1911.

¹⁷ USHER, F. S., and PRIESTLY, J. H., Proc. Roy. Soc. London B **84**: 101-112. 1911.

¹⁸ LEWONIEWSKA, S., Schwankungen in dem Gehalte der Pflanzensamen an einzelnen Phosphorsäureverbindungen in ihrer Abhängigkeit von Vegetationsbedingungen. Bull. Acad. Sci. Cracovie 1911: 85-96.

¹⁹ NADSON, G. A., and KONOKOTINE, A. G., *Guilliermondia*, un nouveau genre de la famille des Saccharomycètes à copulation hétérogamique. Bull. Jard. Imp. Bot. St. Pétersbourg **11**: 117-143. figs. 45. 1911.